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Preliminary keys to the  
Culicine Mosquitoes of the  
New Guinea region.





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PRELIMINARY KEYS TO THE CULICINE MOSQUITOES

OF THE NEW GUINEA REGION

Zoology  
King

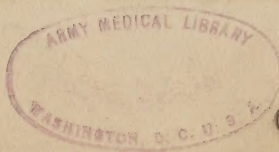
Prepared by Lt. Colonel W.V. King

(With the cooperation of D.J. Lee of the University of Sydney)

The accompanying keys include the genera and species recorded from New Guinea and adjacent territory from the Solomon Islands to Timor, Ceram and the Moluccas, as well as most of the species that have been taken in the northern part of Australia. An opportunity to examine type material in the collection of the School of Tropical Medicine of the University of Sydney, through the kindness of Mr. F.H. Taylor, has made it possible to correct some of the specific names and definitions. Additional differential characters have been given for most of the species of which material was available for examination. Many of the species, however, particularly from the Dutch portion of the area are known only from the original, usually inadequate, descriptions. Adult specimens, both male and female, definitely associated with their larval forms are very much needed for a large proportion of the species in order to classify this fauna satisfactorily. Lee's "Atlas of the Mosquito Larvae of the Australasian Region" (1944) gives a list of most of the species of which the larvae are not known and indicates others for which adequate material or descriptions are not available. The general distribution of the species as known at present is also given in this publication. Additions to these locality records, as well as observations on breeding and feeding habits, will be of value. A number of species included in the keys cannot be assigned to described species and some of these are undoubtedly new. It is hoped that these can be described in the near future.

Keys to the genera Tripteroides, Armigeres and Mansonia have not as yet been completed. It is expected that they will be added later.

The abbreviations apn and ppn employed in the keys refer to the anterior and the posterior pronotal lobes; the terms squame and plume scales refer respectively to the appressed and the outstanding scales of the wing veins. Other anatomical terms are those commonly employed in technical publications on mosquitoes.





King

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KEY TO THE GENERA OF CULICINE AND MEGARHINE MOSQUITOES

1. Proboscis with the apical half slender and bent downwards nearly at a right angle; a V-shaped thickening in the margin of wing membrane near the tip of vein 5.2; very large iridescent species ..... MEGARHINUS
- Proboscis not recurved; without V-shaped thickening in the wing membrane ..... 2
2. Anal vein short, ending about opposite fork of vein 5; squamae without a fringe of hairs ..... 3
- Anal vein ending beyond fork of vein 5; squamae fringed; first forked cell more than half as long as its stem ..... 5
3. First forked cell not more than half the length of its stem; wing membrane with very small microtrichia ..... URANOTAENIA
- First forked cell distinctly more than half the length of its stem; wing microtrichia normal, ..... 4
4. Proboscis hairy and apical, third much enlarged; wing scales normal, rounded ..... HARPAGOMYIA
- Proboscis normal; plume scales widened and emarginate at tip ..... HODGESIA
5. Postspiracular hairs absent; segment 8 of female abdomen usually wide and nonretractile; female tarsal claws simple ..... 6
- Postspiracular hairs present; segment 8 of female usually narrowed and more or less retractile; female tarsal claws (at least on fore and mid feet) toothed in most species (except in Mansonia).. .....12
6. Spiracular bristles present. (Head and scutellum completely flat scaled; male palpi short in most species) ..... TRIPTEROIDES
- Spiracular bristles absent ..... 7
7. Postnotum with a group of small hairs; mesonotum without dorso-central or prescutellar bristles. (Mesonotal scales flat; male palpi short) ..... HEIZMANNIA
- Postnotum bare; dorsal bristles present on mesonotum .....8
8. Pulvilli present. (Plume scales of wing veins linear or only moderately broadened) ..... CULEX
- Pulvilli absent ..... 9
9. Plume scales linear. Species with distinctly yellowish integument (except linealis) but otherwise of general resemblance to Culex. ..... MANSONIA (COQUILLETTIDIA)
- Wing scales all very broad .....10
10. Femur of midlegs with an apical scale tuft; all segments of female antenna and last two of male short and thick ..... AEDOMYIA
- Not as above .....11
11. Wings with white-scaled spots; first segment of fore tarsi as long as other four segments together; segment 4 shorter than 5; male palpi and proboscis not swollen ..... ORTHOPODOMYIA
- Wings without definite spots (may be speckled); tarsi not as above; male palpi and proboscis swollen ..... FICALBIA



12. Wing scales very broad, many asymmetrical; tip of female abdomen upturned and rounded and tergite 8 with a row of short spines; female claws simple ..... MANSONIA (MANSONOCIDES)

Plume scales linear or not unusually broad (except in Aedes kochi group, which however have definite white spots on wing); female abdomen not as above; female claws toothed in Armigeres and in most species of Aedes ..... 13

13. Proboscis rather stout and somewhat curved downwards towards tip; one mesopimeral bristle at about centre of lower third of sclerite; head and scutellum entirely flat scaled. (Male palpi as long as proboscis, the last two segments slender and without hair tufts; male claspers with a row of spines.) ARMIGERES (ARMIGERES)

Proboscis fairly slender and straight; if head and scutellum are largely flat scaled, lower mesopimeral bristles not present or (in aurimargo) female claws not toothed. (Male claspers without a row of spines; male palpi frequently otherwise than above)..... Aedes

GENUS CULEX

Spiracular and post-spiracular bristles lacking; pulvilli present; female claws simple; tip of female abdomen usually blunt, more or less compressed dorso-ventrally, the 8th segment short but nearly as wide as the 7th; male palpi usually longer than proboscis, hairy. (The species not otherwise indicated in key belong to subgenus Culex).

1. A row of 5 or more lower mesopimeral bristles placed towards front of sclerite. (Proboscis with pale scales underneath in centre; femora well mottled with white; wing scales and tarsi dark; abdomen unbanded; mesonotum dark with scattered pale scales around margins and forming a pair of indistinct spots near middle; a large robust species.)..... (Lutzia) halifaxi Theob.

Lower mesopimeral bristles, if present, not more than three in number, usually one ..... 2

2. Proboscis and tarsi ringed with white, the latter usually narrow; no lower mesopimeral bristles. (Occiput without flat scales bordering the eyes.) ..... 3

Proboscis and tarsi not ringed; lower mesopimeral bristles in most species (present unless otherwise stated in key) ..... 18

3. Wing with spots of white scales as in some Anopheles, three on the costa ..... 4

Wing without definite pale-scaled spots ..... 5



4. First pale spot from base of wing extending onto vein 1; mesonotum with anterior two-thirds largely pale scaled. (Wing markings of specimens from Australia, New Guinea and Borneo do not agree entirely with Barraud's description of this species from India). . . . . mirulus Edw.

First pale spot occurs only on costa and subcosta; mesonotum dark-scaled with several pale spots and a curved lateral line . . . . . solitarius Bon.-Wep.

(In an illustration of solitarius and in the specimens of mirulus referred to, veins 3, 5.1, and basal half of 6 are largely or extensively pale scaled and there is a large pale fringe spot at tip of vein 5.2). . . . .

5. Pale lateral spots and narrow or wide bands at apex of abdominal segments. (Wings, femora and tibiae sprinkled with pale scales; mesonotum dark; tarsi with narrow basal rings extending slightly onto apex of some segments). . . . . bitaeniorhynchus Giles.

Pale abdominal bands or lateral spots mainly at base of segments..6

6. Apical fourth of wing pale-scaled, an area of white scales at base of costa and vein 1 and a sprinkling elsewhere. (Tarsal rings involve apices of segments 1 and 2; a white ring at base of femora and at base and apex of tibiae; abdomen with broad basal bands; mesonotum with a median pale longitudinal stripe and curved lateral ones.) . . . . . niraculosus B.-W.

Apical fourth of wing not pale-scaled . . . . . 7

7. Anterior two-thirds of mesonotum largely pale-scaled, the posterior third contrastingly dark . . . . . 8

Mesonotum otherwise . . . . . 10

8. Femora and tibiae mottled with pale scales, a few pale scales on wing also. (Tarsal rings extending slightly onto apex of some segments; abdominal bands narrow, the lateral spots long; occiput with yellowish scales in middle, a dark patch on each side; mesonotal markings rather variable.) . . . . . squamosus (Tay.)

Legs not mottled . . . . . 9

9. Tarsal rings extending slightly onto apex of some segments. (Described by Theobald as having ochraceous coloured legs with scattered dark scales on femora and tibiae, but given as dark and not speckled by Barraud & Bonne-Wepster and Brug.) . . . . . golidus Theob.

Tarsal rings basal only; mesonotum strikingly white on anterior two-thirds; abdominal bands very narrow, straight; apical half of last palpal segment of male pale . . . . . vicinus (Tay.)

10. Mesonotum dark-scaled with a sprinkling of pale or golden scales, sometimes segregated around margins and over ante-scutellar space; femora more or less mottled with white . . . . . 11

Mesonotum otherwise . . . . . 12

11. Abdominal bands usually somewhat produced in middle; fork of vein 2 about level with or proximal to 4 . . . . . anhuliorestris Skuse.

Abdominal bands usually straight or slightly curved on posterior margin; fork of vein 2 distal to that of 4 . . . . . sitions Wied.

12. Mesonotum rather uniformly pale, whitish or pale brown . . . . . 13

Mesonotum not uniformly pale . . . . . 15



13. Mesonotal scales practically all white; femora mottled; fork of vein 2 distinctly distal to that of 4; tarsal rings almost entirely basal . . . . . bipunctatus Edw.  
 Mesonotal scales yellowish or pale brown; legs not mottled . . . 14
14. Fork of vein 2 level with or slightly distal to 4. (Specimens from New Guinea, possibly this species, have the abdomen unbanded or with a single row of white scales on segments 4 and 5; mesonotum quite dark; paler around margins.) . . . . . vishnui Theob.  
 Fork of vein 2 distinctly proximal to that of 4; abdominal terga with broad basal bands. . . . . tritaeniorhynchus siamensis Bar.
15. Wing scales short and noticeably broadened and darker on veins 3, 4.1 (apical half), 4.2 and 5; abdominal terga with median basal triangular spots or with complete basal bands produced in middle. (Mesonotum with whitish scales, interrupted on posterior third by a pair of dark stripes on each side of antescutellar space, and sometimes with a dark median longitudinal stripe anteriorly.) . . . . . whitmorei (Giles)  
 Wing scales and abdominal bands not as above . . . . . 16
16. Abdomen with narrow apical white bands on segments 5 to 8, in addition to the basal bands. (Mesonotum palest on middle third, the anterior third with a variable amount of darker scaling, the posterior third with a dark area on each side of antescutellar space; wings with a line of white scales at base of costa and speckled along basal half of subcosta; proboscis shorter than fore-femur.) . . . . . basicinctus Edw.  
 Abdomen without distinct apical bands . . . . . 17
17. Very small species; mesonotum with pale scales forming a median spot on anterior third, and rather broad lateral curved lines tending to join across middle; 1st forked coll about twice the length of its stem and its base about level with that of the 2nd . . . . . crinicauda Edw.  
 Mesonotum largely pale scaled on anterior half except for a submedian pair of dark-scaled spots; largely dark scaled posteriorly except around antescutellar space; first forked coll as long as or longer than its stem and its base distinctly distal to that of the 2nd . . . . . alis Theob., Ssensu, Brug 1934  
 (In Theobald's original description of alis from Christmas Is., the mesonotum is described as having golden brown scales with creamy ones laterally towards front, spreading onto dorsum about its middle to form two large pale spot-like areas.)
18. (2) Abdominal terga with basal pale bands of lateral spots . . . . 19  
 Abdominal terga unmarked or with apical lateral spots; . . . . 30
19. Head scales all narrow (except for the usual patch of flat white ones at sides) . . . . . 20  
 Head with at least a narrow line of flat scales bordering eyes and extending nearly to vertex; wing scales usually broadened on forks of veins 2 and 4 . . . . . 24



20. Pleura bare of scales. (Head and thorax uniformly pale-scaled, the latter with two indistinct median darker lines in front; abdominal bands narrow, an apical one on segment VII; plume scales narrow; male with flat scales on head spread farther onto crown; long segment of male palpi with a row of long narrow scales characteristic of this subgenus. If thorax dark brown see cylindricus, couplet 23.) . . . (Culicomyia) pallidothorax Theob.
- Pleura with patches of flat scales (unless denuded) . . . . . 21
21. Abdominal bands rounded on posterior border and separated, or nearly separated, on some segment from the large lateral spots; mesonotal scales usually quite pale, many of them rather large and coarse; upper half of ppn scaled; large patches of scales on upper and lower sternopleura and mesepimera; plume scales on forked veins all linear . . . . . (Culex) fatigans Wied.
- Without this combination of characters . . . . . 22
22. Lower mesepimeral bristle absent. (Abdomen with complete or nearly complete basal bands on segments 2 to 4 and large lateral spots on others; wing scales denser towards tip; male not known.) . . . . . (Lophocoratomyia) chaetovenetralis (Theob.)
- Lower mesepimeral bristle present . . . . . 23
23. Mesonotum uniformly dark brown, the scales very fine; abdominal white bands straight or slightly produced in middle, continuous at sides and somewhat enlarged laterally on segments 6 and 7; ppn bare; small patches of inconspicuous scales present(? usually) on the upper and lower sternopleuron; plume scales widened on forks of vein 2; male with modified scale tufts on some of antennal segments characteristic of subgenus Lophocoratomyia (occurring on segments VI to X in this species); head in both sexes without the flat scales bordering the eyes usual in the subgenus. . . . . (Lophocoratomyia) cylindricus Theob.
- Mesonotum with pale scales laterally in front of wings and two pale scaled lines dorsally on posterior half; abdomen with basal lateral spots which nearly meet on some segments. (Presence of a lower mesepimeral bristle or scales on pleurae not mentioned in the available descriptions so the position of the species in the Key is uncertain. If specimen has abdomen unmarked dorsally and mesonotum with a double median line, partial submedian lines and lateral lines of white scales see M. (Coquillettidia) linealis.) . . . . . (?Culex) ornatus (Theob.)
24. Abdomen with complete pale bands; pleura bare of scales . . . . . 25
- Abdomen with lateral spots only, usually small; segments 6 to 11 of male antennae with modified scales. . . . . 28
25. Abdominal bands wide and prominent; pale flat scales bordering eyes usually separated by narrow scales at midline . . . . . 26
- Abdominal bands narrow; . . . . . 27
26. Lower mesepimeral bristle present; pleural integument usually with a dark stripe across upper part extending onto ppn, and another dark oblong spot on upper third of sternopleuron; abdominal bands usually straight and continuous at sides but sometimes rounded and resembling those of fatigans; thoracic integument frequently with a distinctly greenish tinge, the scales fine; ppn bare of scales except for a few on upper border . . . . . (Culicomyia) pallius Theob.
- No lower mesepimeral bristle; male palpi without hair-like scales on long segment found in subgenus Culicomyia; proboscis of male with an ill defined pale ring, most distinct beneath . . . . . (Neoculex) crassistylus Brug.



27. Head scales nearly all flat; only a small median area of narrow ones; male palpi short, only about one-fifth length of proboscis; abdominal bands not always present . . . (Mochtogenes) malayi (Leic.)
- Head with a large triangular area of narrow scales; male palpi as long as proboscis; male antennae with modified scale tufts . . . . . (Lophoceratomyia) fraudatrix annulata (Tay.)
28. Head almost entirely covered with dusky flat scales; pleura usually showing small inconspicuous patches of scales; modified scales on segment 6 of male antenna hairlike . . . . . 29
- Head with a comparatively large median area of narrow scales extending to eyes; pleura bare of scales; scales on segment 6 of antenna distinctly flattened . . . . . 30
29. Segment 6 of male antenna with only four or five rather short scales . . . . . (Lophoceratomyia) hilli hilli Edw.
- About 12 fairly long scales on segment 6 of male antenna . . . . . hilli buxtoni Edw.
30. Segment 6 with a large fan-shaped tuft of scales. (Abdominal tergites unmarked in male.) . . . (Lophoceratomyia) fraudatrix (Theob.)
- Scales on segment 6 reduced to about six. . . fraudatrix solomonis Edw.
31. Abdominal tergites with small apical lateral pale spots; head with a fairly wide line of flat scales bordering eyes; scales on fork of vein 2 distinctly broadened . . . (Culicionyia) papuensis (Tay.)
- Abdominal tergites unmarked . . . . . 32
32. Occipital scales all narrow; sternopleura with a patch of pale scales. (Male palpi about two-thirds length of proboscis; no lower mesepineral bristle.) . . . . . (Nooculex) brevipalpis Giles.
- Occiput with at least some flat scales; pleurae usually bare of scales . . . . . 33
33. A narrow line of flat scales bordering eyes (less than in papuensis); plume scales at tip of wing linear; usually two lower mesepineral bristles . . . . . (Culicionyia) sp. near papuensis
- Head scales nearly all flat; plume scales at tip of wing broadened or spatulate . . . . . 34
34. Mesepineral bristle absent; head with a conspicuous line of pale scales bordering eyes, dark ones behind; male palpi short as in female . . . . . (Mochtogenes) cataractarum Edw.
- Mesepineral bristle present (? in digoolensis); male palpi as long as proboscis . . . . . 35
35. Male antennae normal; thorax brown, pleura pale with a bluish tinge when fresh (thorax of larva distinctly blue); occiput of female with only a small median area of narrow scales behind, the male with a larger area; plume scales mostly linear, slightly broadened on forks of vein 4; very small species; wing length 2.2 mm. . . . . (?Melanoconion) sp. "blue Culex"
- Male antennae with a small tuft of modified scales on segment 8 and a larger one on segment 9; vertex of head with flat black scales . . . . . (Lophoceratomyia) digoolensis Brug



# GENUS Aedes

Postspiracular bristles present, spiracular bristles and pulvilli absent. About 75 species and subspecies are included in the accompanying key, with representatives of 12 subgenera, the largest number being in Finlaya. Some of the subgenera may be recognized by a combination of external characters but others are extremely difficult except by the male terminalia. The following table shows some of the external characteristics of the subgenera.

Subgenus	Eighth segment & cercia	Female tarsal claws toothed	Occipital scales mainly broad	Scutellar scales broad	Male palpi long	Tarsi ringed
Mucidus	A	+	-	-	+	+
Ochlerotatus	A	+	-	-	+	+ or -
Finlaya	D, C	+	some +	some +	+	+
Macleaya	C	-	+	+	+	+
Pseudoskusea	A or C	some -	some -	-	+	-
Geoskusea	B	-	+	+	-	-
Rhinoskusea	A	-(male also)	+	+	-	-
Stegomyia	C	usually +	+	+	+	+
Aedimorphus	A	+	-	-(one sp. +)	+	+ or -
Banksinella	A	+	-	-	+	+ or -
Aedes	B	usually +	+	-	-	-
Leptosomatomyia	C	-(male also)	+	+	-	-

\* A, the eighth abdominal segment of female small and retractile, the cerci long, slender and projecting from the ring of segment seven; B, cerci rather long and slender but segment eight not completely retractile; C, the cerci short; D, the eighth sternum large and triangular shaped, compressed laterally.

All of the known species of Finlaya in the Australasian region have the hind tarsi ringed with white, but some dark-legged species are known elsewhere. Only a few of the subgenera contain species that have lower mesepimeral bristles, and these are lacking in all species included in the key except (Ochlerotatus) vittiger, (Banksinella) lineatopennis, (Mucidus) alternans, and (Leptosomatomyia) aurimargo. Information on this character is not available for two others in these subgenera, (O.) purpuraceus and (L.) medialis. In the species assigned to the subgenera Aedes and Geoskusea, with the exception of (A.) ceramensis and (G.) daliensis, there is a patch of fine hairs on the posterior part of the lower mesepimeron. Two species that have been recorded from the area, (Aedes) macrodixoa and (A.) anesi are omitted from the key because descriptions are not available.

1. Tarsi concolorous . . . . . 2  
Tarsi ringed with white . . . . . 21
2. Mesonotum concolorous or with an indefinite mixture of pale and dark scales (small white spots present in alboscuteollatus) . . . 3  
Mesonotum ornamented (sometimes only a white border) . . . . . 18



3. Mesepimeron with a patch of fine hairs posteriorly on lower half . . . . . Subgenera Aedes and Geoskusea, in part . . . 4  
 Mesepimeron without hairs or bristles on lower half. (If a male with lower mesepimeral bristles and short palpi, see aurimargo, couplet 20) . . . . . 13
4. Plume scales on forks of vein 2 rather broadly linguulate (otherwise similar to sinilis, carnenti and funereus; markings of abdomen not definite in original description of a single male from Western New Guinea; scales on upper sternopleuron and mesepimeron dark brown; male coxite with four leaf-like appendages near apex) . . . . . (Aedes) quadrifolium Brug.  
 Plume scales usually linear . . . . . 5
5. Abdomen with dorsal white bands . . . . . 6  
 Abdomen without complete dorsal bands; mesonotal scales dark brown 7
6. Mesonotum reddish-tinged; abdominal terga with conspicuous pearly-white basal bands . . . . . (Aedes) incertus Edw.  
 Mesonotal scales dark brown; abdominal bands distinctly removed from base of segments, narrow, enlarging laterally. (Scales on upper sternopleura partly dark, partly whitish; female claws simple . . . . . (Aedes) funereus (Theo.)
7. Lateral pale spots on abdominal terga basal (usually small); female claws simple (so far as known); male coxite very long . . . . . 8  
 Abdomen with lateral white stripes curving away from base of terga; male coxite not unusually long . . . . . 12
8. Scutellum with flat dark scales . . . . . 9  
 Scutellum with linear scales; hind tibia of male not fringed . . 10
9. Hind tibia of male remarkably bristly, with two rows of long hairs on distal half or two-thirds; palpi of both sexes about one-fourth length of proboscis, slightly thickened apically . . . . . (Geoskusea) finbripes Edw.  
 Hind tibia of male with only a few scattered bristles, no fringe; palpi not swollen at tip . . . . . (Geoskusea) tonsus Edw.
10. Proboscis about as long as fore femur; tarsal claws simple; scales on upper sternopleura white. (one female from Milne Bay) . . . . . (? Aedes) sp. near sinilis  
 Proboscis distinctly longer than fore femur . . . . . 11
11. Palpi slender, not swollen at tips; mesepimeron with fine pale hairs posteriorly on lower half; pleural sutures and metapleura pale yellowish (male only known) .. (Geoskusea) longiforceps Edw.  
 Palpi distinctly swollen toward tip; lower mesepimeron with a few short and a few longer hairs toward posterior border; lower part of thorax and underside of abdomen yellowish, contrasting strongly with the dark legs and upper part of the body (male from Milne Bay). . . . . (Geoskusea) sp. near longiforceps Edw.
12. Female claws toothed; scales on upper sternopleura usually dark . . . . . (Aedes) carnenti Edw.  
 Female claws simple; scales on upper sternopleura usually pale . . . . . (Aedes) sinilis Theob.



13. (3) Occipital scales narrow; scutellum densely scaled with pure white flat scales. (Abdomen usually with complete bands at base of terga; mesonotum with one or two pairs of small white dots; tips of tibiae white, also tips of femora in male and of hind femora in female; female claws toothed; cerci long and slender; male palpi long, hairy and slightly banded) . . . . . (Aedinorphus) albescutellatus (Theob.)
- Occipital scales flat . . . . . 14
14. Scutellar scales narrow (? in ceramensis) . . . . . 15
- Scutellar scales broad and flat . . . . . 17
15. Abdominal terga with basal pale bands. (Female claws simple; cerci long; male palpi as long as proboscis) . . . . . (Pseudoskusea) culiciformis (Theob.)
- Abdominal terga with basal lateral spots only . . . . . 16
16. Male palpi long; female claws toothed. (A series of specimens from Dutch New Guinea referred to multiplex by Theobald, 1910, altho the mesonotum showed no trace of the ornamentation found in the type material from Australia; thought by Edwards, 1924, to be probably a distinct species) . . . . . (Pseudoskusea) sp. near multiplex (Theob.)
- Male palpi short; female unknown. (Scutellar scales not mentioned in original description but presumably narrow as the species was referred to subgenus Aedes; male coxite with a stout subapical spine as in funereus but mesopimeron without fine hairs; lateral abdominal spots very small) . . . . . (? Aedes) ceramensis Brug.
17. Scales of head and scutellum pale; abdomen with large basal lateral white spots. (Said to be banded, in the original description, but type female shows only faintest trace of basal bands; male not known) . . . . . (Gooskusea) dallensis (Tay.)
- These scales dark; abdomen unmarked. (First hind tarsal segment slightly longer than tibia; proboscis long and slender; male palpi short) . . . . . (Rhinoskusea) longirostris (Loic.)
18. (2) Mesonotum largely pale scaled, on anterior half, a large triangular area of dark brown scales posteriorly, the apex of the triangle ending about midway; abdominal terga metallic violet with basal pale lateral spots; mesopimeron "without bristles but with some white soft hairs on the upper part and in the middle"; male palpi longer than proboscis . . . . . (? Ochlerotatus) purpuraceus Brug.
- Mesonotum and abdomen otherwise . . . . . 19
19. Abdomen with basal white bands curving to middle of terga laterally, sometimes the bands incomplete dorsally; mesonotum with a fairly distinct median golden longitudinal line and curved lateral ones; mesopimeron without bristles on lower half but with a patch of fine hairs posteriorly. (Occiput with flat scales, scutellum with narrow ones; wing scales dark, the plume scales linear; female claws simple; male palpi short) . . . . . (Aedes) funereus ornatus (Theob.)
- Abdominal pale markings not as above; lower mesopimeral bristles present; mesonotum with broad lateral stripes of yellowish scales . . . . . 20



20. Mesonotum usually with fine median and submedian longitudinal lines of yellowish scales, and with the lateral stripes widening back of fossae and divided posteriorly by a stripe of dark scales; mid-lobe of scutellum with flat scales, dark basally and pale at tip, the side lobes with narrow pale scales. (Occiput nearly covered with flat black scales except for a stripe of white ones toward sides and a small median area of narrow ones behind; ppn covered with pale scales, flat below, narrow above; wing scales all dark; abdominal terga with large lateral white spots, similar to those of Armigores, and usually with small median basal spots on segments 2 to 5; mesepimeral bristles usually one long and one to three shorter ones about the middle of the lower half of the sclerite; male and female claws simple; male with mesonotum unornamented except for a small patch of pale scales above wing roots, and with short palpi) . . . (Loptasomatomyia) aurimargo Edw.
- Mesonotum dark in middle and the lateral stripes undivided posteriorly; scutellar scales all narrow. (Occiput with a large median triangular patch of narrow scales; ppn nearly bare; wing scales pale on basal half of vein 1 and partly so on stem of vein 5; abdominal terga with wide median basal spots, or bands, dark laterally; female claws toothed; male palpi longer than proboscis and with the two apical segments apparently fused) . . . . .  
. . . . . (Banksinella) lineatopennis (Ludl.)
21. (1) Wing membrane with a clouded area over cross veins in center of wing and the cross veins in almost a straight line, a smaller clouded area at base of vein 2; female palpi a fourth to a half as long as proboscis; very large, speckled species with the femora and tibiae ringed. (Subgenus Mucidus) . . . . . 22
- Otherwise . . . . . 26
22. Wing scales dense and quite broad (becoming narrower toward tip of wing); a white costal spot at the termination of subcostal vein, a spot on each of veins 2 and 4 before the forks, wide fringe spots between terminations of the veins, and well speckled elsewhere; first three tarsal segments basally ringed, others dark; labium entirely pale on apical half except for a dark ring at tip; palpi half as long as proboscis, the apical segment white; abdomen nearly all yellow scaled; a group of about 10 lower mesepimeral bristles; palpi and legs rather shaggy . . . . .  
. . . . . (Mucidus) alternans (Westw.)
- Wings very lightly scaled, speckled on costa, subcosta and vein 1; fifth hind tarsal segment all white; proboscis yellowish, speckled with black; palpi yellow except for dark tip, about a fourth as long as proboscis; no lower mesepimeral bristles; legs not markedly shaggy. . . . . (Mucidus) aurantius group 23
23. Fore and mid tarsi not ringed; hind tarsi with narrow basal rings on segments 1-2 or 1-3 . . . . . 24
- Some of fore and mid tarsal segments ringed . . . . . 25
24. Abdominal terga 1 and 2 dark, 3 with some median spots of golden scales, the remaining segments becoming gradually more golden-scaled and the apical ones entirely so. (Sarawak). . . . .  
. . . . . aurantius aurentius (Theob.)
- Abdomen mainly dark, the golden scales almost confined to pairs of dots on terga 2 to 4, and median patches, extending to hind margin, on 5 to 7; legs darker, the femora and tibiae with much less conspicuous mottling. (Solomon Islands) . . . . .  
. . . . . aurantius nigrescens (Edw.)



25. Tarsal segments 1 to 4 all basally ringed with yellowish scales and segments 1 and 2 of fore and mid tarsi with distinct apical banding also, segment 5 of hind tarsi pure white, of fore and mid tarsi all yellowish; abdominal terga 2-4 with narrow basal bands, scalloped on 2, with additional submedian spots on 2 and 3, segment 4 flecked with golden scales and 5-7 becoming increasingly golden; scutum with a border of golden scales anteriorly and an indefinite stripe across middle. (North Queensland) . . . . . aurantius chrysogaster (Tay.)
- Tarsal segments 1 and 2 with basal rings, sometimes a spot on 3. . . segment 4 entirely dark, segment 5 of hind feet pure white, and indefinitely yellowish on fore and mid feet; abdominal terga 2 to 4 each with two prominent curved or scalloped basal patches, nearly meeting in middle, and with additional submedian spots; 5-7 largely yellowish, flecked with dark, with or without a dark basal band on 5 and 6; mesonotum with a stripe of golden scales across front border. (Milne Bay) . . . . . aurantius var?
26. Wings with pale-scaled spots (at least three on costa), and pale fringe spots, as in some Anopholes; scales on upper side of wing mostly broad and truncate; abdominal terga with basal and apical white spots or more extensively pale scaled . . . . . (Finlaya) kochi group 27
- Wings without pale-scaled spots (but may be speckled) . . . . . 32
27. Segment 5 of hind tarsi dark; femora and tibiae sparsely speckled, not ringed; mesonotum with a median, submedian and curved lateral lines of white scales; proboscis with two white lateral stripes dorsally; abdominal sterna without scale tufts . . . . . (Finlaya) gani B.-W.
- Segment 5 of hind tarsi all white; femora and tibiae ringed alternately with black and pale scales; mesonotum not lined, usually with a pale-scaled border anteriorly; proboscis usually ringed centrally. (Remainder of key to kochi group from Edwards, 1926) 28
28. Hind tarsi with white rings at the tips of the first three segments, those on segments 2 and 3 occupying about as much space as the black basal part; segment 4 all black, 5 all white . . . . . 29.
- Hind tarsi more extensively pale, segments 2 and 3 having only narrow black rings at the base . . . . . 31
29. General colour black, markings pure white; all the veins with numerous small white dots; sternites 5-7 in female with outstanding scales . . . . . Kochi poicilius (Thos.)
- General colour lighter; wing-markings very variable, but the light areas either not dot-like or else much less numerous . . . . . 30
30. Sternites 5-7 of female abdomen with outstanding black scales; pale markings of wings and legs with little or no yellow tinge. . . . . Kochi kochi (Don.)
- No outstanding scales at end of sternite 5, though they are present on 6 and 7; pale markings of wings, femora and tibiae more or less strongly tinged with yellow . . . . . samoanus (Grumb.)
31. Proboscis black, with a yellow ring in the middle and a narrow yellow tip; fourth hind tarsal segment all black; sternites 5-7 with outstanding scales apically . . . . . wallacei Edw.
- Proboscis and hind tarsi mainly yellow, the fourth hind tarsal segment with a narrow dark basal ring; sternites 4-7 with outstanding scales . . . . . flavipennis (Giles.)



32. Mesonotum not strikingly ornamented, either entirely dark-scaled or with indefinite lines or sprinkling of pale scales (largely golden in occidentalis) . . . . . 33
- Mesonotum more or less ornamented with lines or patches of pale scales; hind tarsal segments with broad basal white rings unless otherwise indicated. Chiefly Stegomyia and Finlaya . . . . . 40
33. Hind tarsi with segment 4 all dark, 5 all white, segments 1-3 with broad basal rings; mesonotum usually with faint indications of yellowish lines (medium, submedian or lateral), sometimes fairly distinct; abdominal terga with median spots or patches (sometimes forming nearly complete basal bands) and lateral basal spots of white; head with patches of dark and white scales, flat except for a narrow median line; mid-lobe of scutellum with flat scales, dark except for a median white stripe, the side lobes with linear white scales; female claws simple. A small stumpy species . . . . . (Macleaya) tremula (Theob.)
- Hind tarsi not as above; occiput and scutellum with mostly narrow scales; female claws toothed; abdomen with complete bands . . . 34
34. Hind tarsi with broad white basal rings on segments 1 to 4 (a third to a half length of segment on 4), segment 5 dark; 8th sternite prominent, compressed laterally, cerci short. (Femora well mottled; abdominal terga with the basal bands well separated toward sides from large lateral spots) . . . . . 35
- Hind tarsi with rings or dorsal spots on all segments (sometimes indistinct on last two); cerci long and slender, segment 8 retractile, the sternite not prominent . . . . . 36
35. Femora with a preapical white ring or large spot; proboscis mottled with pale scales on basal half (except extreme base) . . . . .
- . . . . . (Finlaya) alboannulatus (Macq.)
- Femora not ringed; proboscis all dark; mesonotal scales sometimes largely golden with areas of dark scales on fossae and at each side of antescutellar space . . . . . (Finlaya) occidentalis (Skuse)
36. Proboscis pale scaled, sprinkled with dark, on basal half, the apical portion dark; wings with some pale scales; femora sprinkled with white . . . . . 37
- Proboscis dark or largely so; wings and femora not speckled, tarsal rings very narrow . . . . . 38
37. Hind tarsi with broad basal rings on all segments (at least half as long as segment on 5); proboscis with a rather sharp demarkation between the pale and dark portion; abdominal bands straight, the lateral spots in middle of segments . . . . .
- . . . . . (Ochlerotatus) vigilax (Skuse)
- Hind tarsi with narrow rings or dorsal spots decreasing apically and sometimes indistinct on last two segments; proboscis without a sharp demarkation between the pale and dark scaling; abdominal bands usually distinctly narrower in middle on segments 5 and 6 and slightly separated from the elongated lateral spots (which reach base of segments) . . . . .
- . . . . . (Aedinorphus) vexans (Meig.) (Oriental form)



38. Hind tarsi usually with distinct rings on all segments and distinctly longer than wide on at least the first two segments; femora, especially the hind ones, largely yellowish on basal two-thirds with only a dorsal line of dark scales; abdominal bands narrow, sometimes well separated from lateral spots (female only known) . . . . . (Aedinorphus) inprinens (Walk.)
- Hind tarsi with very small rings or dorsal spots, indistinct on last two segments and scarcely longer than wide on first two. .39
39. Last two segments of male palpi apparently fused; palpi not banded. (Femora largely pale basally; abdominal bands rather wide and slightly rounded). (Banksinella) brugi Edw., ? = male of inprinens
- Last two segments of male palpi articulated normally; palpi with a central pale ring on long segment and dorsal basal spots on apical segments . . . . . (Aedinorphus) caecus (Theob.)
- 40.(32) Mesonotum with anterior two-thirds largely pale-scaled, covering at least half of the fossae . . . . . 41
- Mesonotum not largely pale. (A large rounded patch on anterior half in annandalei) . . . . . 45
41. Mid and hind tarsi with basal and apical white rings on segment 1 and a basal spot or complete ring on segment 2 (wider on mid tarsi); fore tarsi all dark; hind femora with basal half all white and an apical white ring; mid-femora with a basal ring, two spots or stripes centrally and an apical spot below. (Mesonotum with a striking patch of linear white scales across front half and upper part of ppn and a broad line around antescutellar disc; occiput with a median area of narrow scales, mixed white and dark, bordered by flat dark ones at sides and flat white ones around eye margins; apn and pleurae with patches of flat white scales, the scutellum with narrow white; abdomen with median and lateral basal white spots) . . . . .  
. . . . .(Finlaya) sp. No.8 (near gubernatorius Giles)
- Tarsi and femora otherwise . . . . . 42
42. Hind tarsal segment 1 to 4 or 1 to 5 with broad basal rings; mesonotum with a narrow lateral border of dark scales; abdominal terga with narrow basal bands . . . . . 43
- Hind tarsal segments 4 and 5 not ringed . . . . . 44
43. Mesonotal markings pure white; all hind tarsal segments broadly ringed; ppn with narrow dark scales on upper half, a small patch of flat pale ones below; scutellar scales all narrow, pale except for a median stripe of dark on mid-lobe. (For male specimens compare also couplet 67). . . . .(Finlaya) papuensis(Tay.)
- Mesonotum broadly white in centre, becoming golden toward side, and with a pair of dark spots near front margin; segment 5 of hind tarsi with a dorsal basal spot only; ppn with narrow golden scales; scutellum with whitish curved scales; wing scales golden, particularly on apical third . . . . . (Finlaya) anggiensis (B.-W.)
44. Anterior half of mesonotum markedly golden to lateral edges; hind tarsal segments 1 to 3 ringed at base, 4 and 5 dark or 5 indistinctly paler; abdominal terga 6 and 7 almost entirely golden, 5 with basal half banded, 3 and 4 with large median basal spots.. . . . .(Finlaya) auridorsum Edw.
- Scales on anterior half of mesonotum whitish; segments 1 and 2 of tarsi basally ringed; abdomen with pale bands, widening in middle, and lateral spots; scutellum with pale narrow scales; . . . . .  
. . . . . (Finlaya) australensis (Theob.)



45. Mesonotum with two or more longitudinal lines of white or yellowish scales, sometimes limited to lateral lines but usually with median or submedian lines also, often forming a lyre-shaped pattern . 46
- Mesonotum otherwise, a single median line in some species . . . 58
46. Proboscis with a central white ring . . . . . 47
- Proboscis without a central white ring . . . . . 49
47. Mesonotum with distinct lyre-shaped markings consisting of a median and curved lateral fine white lines, sometimes with indistinct sub-median lines. (Abdomen with lateral basal spots; hind tarsi with broad basal bands on first four segments and segment 5 all white; occiput with narrow white scales in centre bordered with flat dark ones; scutellar scales all broad white; ppn with dark flat scales, apex with a patch of white) . . . . .
- . . . . . (Finlaya) notoscriptus (Skuse)
- Lines on mesonotum not lyre-shaped . . . . . 48
48. Mesonotum with five straight lines of white; abdomen with median and lateral basal white spots. . . (Finlaya) quinquelineatus Edw.
- Lines of scutum less conspicuous and not continuous; labium of female usually with an elongate white mark above apically, in addition to the ring; abdominal terga all dark dorsally; scales of pleura tending to form lines. . . . . (Finlaya) albilabris Edw.
49. Proboscis largely pale yellowish on basal two-thirds, dark apically; mesonotum with five quite wide straight lines of white scales, the submedian pair widening over ante-scutellar space. (Femora and tibiae mottled; tarsal segments 1 and 2 largely yellowish, with apical dark rings, the dark portion wider on other segments; abdomen nearly all yellowish scaled; yellow scales on subcosta and posterior edge of costa; lower mesepimeral bristle present; occiput and scutellum with narrow scales only) . . . . .
- . . . . . (Ochlerotatus) vittiger (Skuse)
- Proboscis entirely dark . . . . . 50
50. Mesonotum with lateral lines or stripes of pale scales that curve around posterior edge of fossae; 5th hind tarsal all white 51
- Mesonotum without curved lateral lines . . . . . 56
51. Scales of head and scutellum all flat or largely so; mesonotal lines composed of pure white scales . . . . . 52
- Scales of dorsal part of head narrow; mesonotal lines of yellowish scales; female claws toothed . . . . . 54
52. Hind tarsi with segment 4 all dark, segments 1-3 with basal white rings; abdomen with complete white bands that curve away from base of segments laterally, then back to base below. (Thorax with a median line of narrow white scales, forked around disc, and lateral curved lines of spindle-like scales extending to end of thorax; mid-lobe of scutellum with flat scales, dark except for a median line of white; side lobes with dark flat scales on inner side, narrow white ones laterally; head scales nearly all flat and dark except for narrow median and lateral lines of broad white ones and a few narrow pale ones on nape and around eye margins; female claws simple; only the tip of eighth sternum visible in type female; male not known. This species originally placed in subgenus Finlaya but is either a Stegomyia or Macleana. It is similar to M. tricolor, couplet 33, except that the latter is smaller, the abdominal bands are entirely basal and the thorax less ornamented) . . . . . (Stegomyia) littledchildi Tay.
- Hind tarsi with segment 4 broadly ringed; abdomen not as above.. 53



53. Mesonotum with a pair of fine submedian lines of narrow scales and wide curved lateral lines of broad scales anteriorly continued as fine submedian lines to posterior end of scutum; the pattern distinctly lyre-shaped; clypeus with two dots of white-scales; abdominal terga with narrow basal white bands and large oval lateral spots, with similar lateral spots on sterna . . . . .  
 . . . . . (Stegomyia) aegypti (Linn.)

Mesonotum with a median and curved lateral lines each consisting of a single row of small ovoid scales, the median one ending on the ante-scutellar space, the lateral ones extending to apex of thorax, one across ppn and apn and continued across side of head and along eye margin, another straight line of broad white scales across lobes of scutellum, the whole pattern being very distinctive; abdominal terga with small median and lateral basal spots; all femora and tibiae lined for entire length; wing with a line of white on basal fourth of costa; female claws toothed; eighth sternum rather prominent. (The type male of Mimeteomyia pulcher-  
 rimus Tay., is an Aedes aegypti whereas the species thought by  
 Edwards to be this is very distinctive) . . . . .  
 . . . . . (Finlaya) pulcher-  
 rimus (Tay.) sensu Edwards, 1924

54. Mesonotum with median and submedian lines of yellowish scales, the median line forked around ante-scutellar disc. (Scales of ppn and scutellum all narrow, pale.) . . . . .  
 . . . . . (Finlaya) quasirubrithorax (Theob.)

Mesonotum with incomplete or only faint indication of median and submedian lines . . . . . 55

55. Mid-lobe of scutellum with broad white scales, the side lobes with narrow ones; ppn with scattered black scales, rather small and flat; ring on segment 4 of hind tarsi about a third the length of segment; nearly complete bands on abdominal segments 2 to 5, segment 8 all white. . . (Finlaya) sp. near quasirubrithorax Type A

All lobes of scutellum with narrow scales; ppn with narrow white scales; ring on segment 4 of hind tarsi about half length of segment. (Probably only a variant of the type of quasirubrithorax)  
 . . . . . Type B

56. Segment 5 of hind tarsi all dark; segments 1 to 4 basally ringed as also all segments of fore and mid-tarsi. (Mesonotum with fine median and submedian lines, the former forked around disc, the latter slightly interrupted in middle and ending about opposite wing roots; head with narrow creamy scales, a patch of larger flat curved golden ones in front; ppn and scutellum covered with narrow, pale scales; abdomen with basal bands on segments 1 to 6, interrupted on 7.) . . . (Finlaya) gracilelineatus B.-W.

Segment 5 of hind tarsi not all dark . . . . . 57

57. Segment 5 (as well as 1 to 4) of hind tarsi basally ringed; mesonotum with a median ~~stripe~~ of golden yellow scales, less definite posteriorly, and stripes at anterior and lateral borders (the width of the median stripe not indicated in the description); head with narrow yellowish scales in middle bordered with flat black scales sublaterally; scutellum with dark curved scales except on anterior border of mid-lobe where they are yellowish; femora banded near apex; abdominal terga with a median basal spot and lateral stripes; male palpi about one fourth length of palpi. (Tarsal claws and mesopinoral bristles were not described). . . . . (?) Leptosonatornyia) medialis Brug.

Segment 5 all white above; basal bands on segments 2 and 3 extending onto apex of preceding segments (in var. greeni and possibly also in type form); mesonotum with lateral stripes and three separate golden lines on anterior half; abdomen with basal segmental bands, widening laterally . . . . .  
 . . . . . (Finlaya) aurostriatus (Dolos.)



- 58.(45) Mesonotum with a median line or narrow stripe of pure white scales (less than a fifth the central width of thorax), the remainder dark except sometimes over wing roots; . . . . . 59
- Mesonotum otherwise . . . . . 64
59. Hind tarsi with narrow white rings or dorsal basal spots on first three segments only, segments 4 and 5 dark; mesonotal stripe widening slightly posteriorly; mid lobe of scutellum white, the external lobes dark-scaled; ploura with a stripe of silvery white scales across middle; apn and ppn dark scaled; abdomen with narrow basal bands on last three segments; male palpi half to two-thirds as long as proboscis (Stegomyia) albolineatus (Theob.)
- Hind tarsi with broad basal rings on at least first four segments; mesonotal stripe of even width or narrowed behind; male palpi as long as proboscis . . . . . 60
60. Segment 5 of hind tarsi dark or partly so; scutellar scales narrow; vertex of head with a large median patch of narrow white scales bordered by dark flat ones; male with a large oval median patch of white on mesonotum instead of a stripe; female claws toothed 61
- Segments 5 of hind tarsi all white; scales of head and scutellum all broad, the former dark on top except for a median stripe of white, the latter all white, or nearly so; mesonotal stripe similar in the two sexes; female claws simple . . . . . 62
61. Segment 5 of hind tarsi all dark; scutellar scales dark; abdomen dark dorsally, with large basal lateral spots; ppn bare except for a small patch of flat pale scales on lower posterior border. (Dobodura). . . . . (Finlaya) sp. 4
- Segment 5 of hind tarsi white on basal two-thirds; scutellar scales pure white; lateral spots on abdomen rather small except on segments 6 and 7; ppn with narrow dark scales above, a small patch of pale ones below; abdomen of male with complete basal bands on segments 4 and 5. . . . . (Milne Bay. See also argenteitarsus, couplet 70). . . . . (Finlaya) sp. 4-A
62. Abdomen with narrow white bands at base of some or all of terga 2 to 6, connected with the first of a pair of lateral spots, the second of which, on the extreme lower edge is slightly sub-basal on the posterior segments; ploura and ppn with patches of white scales but not continuous stripes; . . . . . (Stegomyia) albopictus (Skuse)
- Complete, or nearly complete, bands on abdominal terga distinctly removed from base and curving laterally toward middle of segments then back toward base below; ploura with two stripes of broad silvery white scales, one along upper margin extending across ppn and around wing base, the other across middle . . . . . (Stegomyia) scutellaris group. .63
63. (Scutellaris group from Edwards.)
- Complete abdominal bands on tergites 3 to 7, nearly touching base of segments in middle, usually some trace on segment 2; sternites with apical black bands; hind femur with a large apical spot; fourth hind tarsal ring about 4/5 of segment. (New Guinea and Solomons). . . . . scutellaris scutellaris (Walk.)
- Complete bands on segments 4 to 7, sometimes on 3 but not on 2; further removed, about 1/3 the distance from base. (New Hebrides) . . . . . scutellaris hebrideus Edw.
- Bands variable, sometimes broadly interrupted or absent (nearly always the latter on segments 2 and 7) less pure white, less



distinct, and nearer base; ring on hind tarsus 4 about half its length. (Tonga and Solomon Islands). . . . scutellaris tongae Edw.

Bands broadly interrupted; 4th hind tarsal ring about 2/3 of segment; large apical spot on hind femur. (Fiji and Samoa) . . . . .  
. . . . . scutellaris pseudoscutellaris (Thoob.)  
and scutellaris horroscons Edw.

- 64.(58) Mesonotum with a round or oval spot or a large patch of white on front half. (Head and scutellar scales all flat; female tarsal claws simple) . . . . . 65

Mesonotum with a wide medial stripe or with two white patches. . 66

65. A small oval median white spot near front of mesonotum; hind tarsi with wide basal white rings on segments 1-4 and segment 5 all white; abdomen with basal lateral spots. (If specimen is a male with a rather large oval patch see couplet 69). . . . .  
. . . . . (Stogonyia) edwardsi tulagiensis Edw.

A large rounded white patch on front half of mesonotum and rather large roundish patches of broad white scales in front of each wing root; hind tarsi with segments 3 and 5 black, segment 4 nearly all white; abdomen with narrow basal bands widening at sides. . . . . (Stogonyia) annandalei Thoob.

66. Mesonotum with a wide median stripe extending nearly to antescutellar disc, dark on each side. . . . . 67

Mesonotum with a patch of broad silvery white scales on each fossa and similar scales on apn, ppn, scutellum and over wing roots. (First three segments of hind tarsi with basal white rings; occiput with narrow white scales; abdominal segments with large median basal spots, triangular or rounded, separated from large lateral spots that extend onto dorsum). Large metallic-blue species . . . . . 71

67. Fifth hind tarsal all dark; mesonotal stripe about one-third width of thorax and extends to inner edges of fossae, widened or bulb-shaped posteriorly; male with the anterior two-thirds of thorax nearly all white-scaled except for a narrow lateral dark border 68

Fifth hind tarsal with a broad basal ring; . . . . . 69

68. Posterior cross vein (c.v.4-5) in line with or distinctly distal to the mid-cross vein (c.v.3-4); abdomen with small or somewhat widened basal spots on segments 2 to 4 (type female has very small spots, not basal bands as stated in original description); head with large median area of narrow pale scales; ppn with narrow dark scales on upper half, or a few pale ones also on upper edge, a small patch of flat pale scales below posteriorly; scutellum with narrow scales, white except at base of mid-lobe where they are dark; mesonotal stripe of pure white scales . . .  
. . . . . (Finlaya) albitarsis (Tay.).

Posterior cross vein at least its own length nearer base of wing than the mid-cross vein; otherwise quite similar to albitarsus except that the pale mesonotal and head scales are more golden in some specimens; tori yellowish; dark scales on ppn rather broad posteriorly and a much larger patch of pale scales on lower half. (A female specimen from Brisbane showed complete narrow basal bands, continuous with the lateral spots, on abdominal segments 3-6). . . . . (Finlaya) palmarum Edw.



69. Abdomen with complete basal bands on segments 3-5 or 6, enlarging at sides; scutellum with pure white scales on all lobes (except possibly at base of mid-lobe on some specimens); ppn with dark narrow scales above, flat pale ones below; mesonotal markings in both male and female similar to albitarsis. (Finlaya) sp. No. 6

Abdomen without complete bands; scutellum not all white scaled. .70

70. Mesonotal stripe about a fourth the width of the thorax, slightly narrowed anteriorly; scutellum with small curved dark scales on all lobes; ppn with small dark curved scales on upper half; abdomen with a pair of pale spots half way from base to apex on segments 2 to 6 and pale basal or sub-basal lateral spots . . . . . (Finlaya) derooki Brug.

Mesonotal stripe about one-fifth width of thorax, narrowing posteriorly; scutellum with white curved scales on mid-lobe, dark ones on side lobes; ppn with a small patch of flat white scales; a short line of flat white scales in front of base of wing; abdomen with lateral basal spots on segments 2 to 6. (Apparently similar to species No. 4a, couplet 61 except for ~~greater~~ width of mesonotal strip and dark scales instead of white on scutellum). . . . . (Finlaya) argenteitarsus Brug

71. Mesonotum with a median longitudinal line consisting of a double row of large flat white scales which forks around antescutellar disc, and with a line of similar scales on each side of disc; fossae nearly covered with white scales on posterior half and a broad stripe continued to front margin of thorax; a large patch laterally in front and over wing root. . . . . (Finlaya) pocuniosus Edw.

Mesonotal scales all narrow in middle with an indefinite median line of paler ones; spots on fossae smaller, covering about the posterior third; a line of broad white scales around disc, merging with a few narrow pale ones in front; an indefinite sublateral line of narrow yellowish scales on each side of disc . . . . . (Finlaya) purpureus (Theob.) and priestleyi (Tay.)

#### GENUS URANOTAENIA

Small, compact species, usually with the tip of the proboscis enlarged. Vein 6 short and first forked cell much shorter than its stem; squamae without fringe of hairs; wing microtrichia very fine; a single bristle on ppn and on lower mesepimeron, no post spiraculars but one strong spiracular bristle usually present; scales of head and scutellum flat; tarsal claws simple and palpi short in both sexes; male antennae only slightly plumose in some species.

Specimens of some of the unidentified species in the following key were examined in the University of Sydney collections, as were also many specimens of identified species in this and other genera.

1. Sides of mesonotum in front of wing root dark scaled; hind tarsi, wing and abdominal terga uniformly dark . . . . . 2

A short line of white or purplish broad scales along edge of mesonotum. (Most of the species with white scaling on the hind tarsi and basal part of the wing; some with white on dorsum of the abdomen). . . . . 7



2. Two large round velvety-black spots on the integument on each side of mesonotum, one on ppn, the other on the side of the mesonotum in front of wing root. (Pleurae bare of scales; occiput with dusky or gray flat scales). . . . . 3  
 Without such spots . . . . . 4
3. Thorax with a small patch of pale flat scales on each shoulder; ppn almost entirely covered by the black spot. . . . . nigerrima Tay.  
 No broad flat scales on shoulders; posterior half or more of ppn black. . . . . quadrinaculata Edw.
4. Mesonotal integument entirely yellowish, the pleurae pale ochreous; apn with flat dark scales. (Ppn with a few dusky scales around base of bristle; pleurae bare of scales; occiput with dusky scales; 1st tarsal segment shorter than tibia on fore and mid-legs, equal on hind) (Dobodura). . . . . sp. No. 1  
 Mesonotal integument dark; apn with white or pale scales . . . . . 5
5. Occiput covered with pure white scales; pleurae uniformly dark; sternopleura with a patch of white scales; all first tarsal segments shorter than tibiae, on mid legs hardly more than half as long. Dobodura (King); Cairns (Wallace). . . . . sp. No. 2  
 Occipital scales largely or entirely dusky in colour (with metallic reflections); pleural integument with a more or less pronounced dark stripe from the post-spiracular area across upper part of sternopleura and lower part of mesopimeron; pleura bare of scales. 6
6. Occiput covered with dusky scales, pale laterally; apn with a patch of pale flat scales; ppn with a few similar ones around base of bristle; first segment of fore and mid tarsi slightly shorter than tibiae, that of hind slightly longer. (Diagonal stripe on pleura not mentioned in original description of papua, and apn said to be unscaled). . . . . ? papua Brug  
 Head with a margin of white scales around eyes. (Larva differs from above species) . . . . . diagonalis Brug
7. Wings largely white scaled; front of scutum and upper part of pleurae whitish yellow. . . . . nivipes Theob  
 White on wings, if present, limited to base of some of the veins. 8
8. Hind tarsi dark. (Head with a wide stripe of white scales around eyes; a white-scaled stripe across sternopleura; abdominal terga with apical pale bands or lateral spots). . . . . 9  
 Hind tarsi white tipped . . . . . 10
9. Wings with a line of white scales at base of veins 1 and 5; abdomen with narrow apical bands or large lateral spots on segments 2-6. . . . . pygmaea Theob.  
 Wings dark at base; abdomen with lateral apical spots; male with basal segment of front tarsus and tip of mid tarsus peculiarly modified, and hind tibia with several elongate scales sub-apically. . . . . atra Theob.
10. Last three segments of hind tarsi entirely white. (A line of white scales around eyes and another line across upper part of sternopleura). . . . . 11  
 Basal half or more of segment 3 dark. . . . . 14



11. Abdominal terga with a large apical white patch on segment 4 and a few white scales on 3; other specimens possibly of same species with more extensive white, up to a continuous wide longitudinal stripe on first four segments; apex of segment 2 of hind tarsi, as well as last three segments, white; eyes with a wide white border and a line of white scales across sternopleura. . . . . argrotarsus? var. of Edw.

Abdominal terga all dark. . . . . 12

12. Head with a line of white flat scales bordering eyes, widening laterally, a large area of black behind; male tibiae not modified. Tsili Tsili (King); Goodenough (Allman). . . . . sp. No. 5

Head largely white or at least with a very wide line and a comparatively small area of black behind; fore tibiae of male shortened, with a long scale or hair tuft apically . . . . . 13

13. Fore tibia of male shortened but the tarsal segments more or less normal. . . . . Tibialis Tay.

Much larger and with unusually long legs; ~~fore legs of male of peculiar construction, in addition to the hair tuft; the tibia of male being about two-thirds as long as femur; the next segment still shorter and of similar shape, remainder of tarsus longer than the preceding two segments together and without a distinct joint except for the last short segment; on the apical half of the long seg. 2 portion of tarsus are two rows of long hairs; last two segments of mid tarsi unusually scaly with a small tuft ventrally from the joint.~~ Sinini (O'Connor) . . . . . Sp. No. 7

14. Abdomen dark; basal three-fourths of third hind tarsal dark; head with pale scales in centre, blackish elsewhere; broad stripe of scales across sternopleura. A female from Tsili Tsili, possibly this species, has a large diamond-shaped patch of white on vertex and apical half of third hind tarsal white; a short line of white scales at base of vein 5, none on I. . . . . antennalis Tay.

Abdominal segments 1 to 3 largely or extensively white scaled dorsally, segment 4 dark or with a median apical white spot, 5 with a wide apical band; apical third or fourth of third hind tarsal pale; a narrow line of white bordering eyes, rest of head dark; a line of white across sternopleura. . . . albescens Tay.

# GENUS HODGESIA

Very small mosquitoes, distinguished by the form of the plume scales of the wing, which are widened and emarginate at tip. Palpi and antennae alike in the two sexes; tarsal claws simple; pleural bristles much reduced but one strong lower mesepimeral and two posterior frontal bristles present; vertex of head and apex with silvery flat scales; mesonotal scales narrow.

The females are sometimes annoying in woods but the larvae have not been discovered.

1. Abdomen without silvery markings; thoracic integument almost entirely dark. . . . . spoliata Edw.

Abdomen with large lateral spots of silvery scales on segments 2, 3, 5 and 6. . . . . 2



2. Thoracic integument mostly yellowish, with an oval black spot in front of each wing root and a darkened median area between the spots; lateral silvery spot on segment 5 extended nearly to mid dorsal line. . . . . cairnsensis Tay.

Thoracic integument shining black or dark brown; lateral spot on segment 5 large but not much elongated toward dorsum . . . . .  
 . . . . . quasinsanguinae Leic.

#### GENUS AEDOMYIA

Small mosquitoes with densely scaled and mottled wings and legs. Antennal segments short and, in female, thick and rounded, in male the last two segments are only slightly longer than the others. Mid femur with apical scale tuft; palpi about one-fourth length of proboscis in both sexes; no spiracular or post spiracular bristles.

One species of this genus is of wide distribution in the Oriental region and extends into northern Australia so may be expected to occur in the New Guinea area. Another species, A. venustipes Skus., is known only from New South Wales.

Wing scales very broad, mixed black and white, the latter forming three small spots on costa and others at base of each forked cell; proboscis with three white rings; thorax with broad median yellowish stripe; hind tarsi with white basal and apical rings on segments 1 to 4, and segment 5 all white. . . . . catasticta Knab.

#### GENUS FICALBIA

Rather small mosquitoes of rare occurrence. Wing scales broad and mottled; squamae fringed; no spiracular or post spiracular bristles; palvilli absent; male proboscis and palpi more or less swollen apically, the palpi about as long as the proboscis; female claws simple; female palpi about a fourth as long as the proboscis. In the two species below there are apical and basal rings of white or yellowish scales over the tarsal joints, at least on the hind feet. The species included in the genera have diverse subgeneric characters.

Mesonotum with a broad median stripe of golden scales; proboscis of female mottled and somewhat swollen apically; abdomen with small median basal spots on segments 2 to 4 and large lateral spots on the posterior segments; first forked cell longer than its stem; apical fourth of male proboscis greatly swollen; male palpi somewhat shorter than proboscis, slightly enlarged at tip: .  
 . . . . . (Etorleptomyia) elegans Tay.



Mesonotum with a patch of yellow scales in front of wing root; proboscis not mottled; abdomen with a more or less continuous median longitudinal stripe; first forked cell about half the length of its stem; male proboscis moderately enlarged apically; male palpi slightly longer, the apical segment distinctly enlarged. . . . . (Mimomyia) metallica Loic.

#### GENUS HARPAGOMYIA

Very small species, the proboscis of which is unique in having a flexible joint and a much enlarged hairy tip. In live specimens the proboscis is held pointing backwards beneath the body. The species are ornamented with silvery or bluish scales; palpi and antennae alike in the two sexes.

Larvae of an indetermined species of this genus were obtained by the writer during 1943 from the leaf-axils of taro plants, Colocasia spp., in two locations in the Dobodura - Cape Sudest area New Guinea and this is apparently the first record of the genus from the Australasian region. Adults were reared from these larvae.

Basal half of proboscis yellowish, the tip dark; teri pale; ornamentation of silvery-white flat scales with a slightly bluish tinge distributed as follows: a large median ovate patch on head toward front, not extending between eyes, a sharp median line on mesonotum, parallel sided and extending to antescutellar space, large patches on apn, ppn and pleura, and large lateral triangular patches on abdominal segments 2, 4 and 5. Harpagomyia sp. near gonuirostris (Loic.)

#### GENUS HEIZMANNIA

Small mosquitoes distinguished by the presence of hairs on the postnotum. Bristles present on ppn and lower mesepimeron but spiracular and postspiracular lacking; first forked cell longer than its stem; proboscis and legs not ringed; wing scales linear, dark; palpi short in both sexes.

Only one species recorded in the Australasian region, from the Moluccas. In this species the head, apn, ppn, mesonotum and scutellum are covered with brownish or metallic-green flat scales; abdomen metallic-blue dorsally, with white basal spots laterally. . . . . aurca Brug.



GENUS ORTHOPODOMYIA

The fourth segment of the fore and mid tarsi is unusually short, being little longer than broad, and shorter than segment 5; spiracular and postspiracular bristles absent; female claws simple; male palpi as long as proboscis. The species of this genus have broad wing scales, large white spots on the wings, mottled legs, and white rings on proboscis and tarsi.

One species has been recorded from Ceram, the only record of the genus for the Australasian region. This species is described as having the last three segments of the hind tarsi entirely white, segment 2 dark except at tip; fore and mid tarsi with apical and basal segmental banding; abdominal segments with narrow basal bands; mesonotum spotted. . . . . anopheloides var. andamanensis Barraud

ADDITIONAL NOTES ON SPECIES:

Culex (? Culex) pallidiceps (Theob.), a species originally described from Dutch New Guinea, was omitted from the key. It has unmarked proboscis, legs and abdomen and would run to brevipalpis, couplet 32 in the Culex key, from which it differs in having the male palpi longer than the proboscis. Occiput with white narrow scales; integument of mesonotum with two dark lines in front and a dark patch on each side behind. The description does not state whether scales occur on the pleura, or bristles on the lower mesepimeron.

Aedes ((Finlaya)) pulcherrimus sensu Edwards, couplet 53 in the Aedes key, has been described and named by Taylor as A. (Finlaya) mallochi. (Proc. Linn. Soc. N.S.W. 69, 121-122, 1944).

Aedes (Finlaya) quiniquelineatus, couplet 48, has the white band on the proboscis on the ventral side only.

Aedes (Mucidus) alternans, couplet 22, has the fifth segment of hind tarsi entirely pale.









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